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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/020,151	12/18/2001	Roger S. Cubicciotti	031676.0322	7118

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EXAMINER	
SNAY, JEFFREY R	
ART UNIT	PAPER NUMBER
1743	

DATE MAILED: 03/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/020,151

Applicant(s)

CUBICCIOTTI, ROGER S.

Examiner

Jeffrey R. Snay

Art Unit

1743

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,11,15,22,31,43-55 and 59-74 is/are pending in the application.
- 4a) Of the above claim(s) 1,11,15,22,31,43-49,55 and 71-74 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 50-54 and 59-70 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

63

DETAILED ACTION

Election/Restrictions

1. This application contains claims 1, 11, 15, 22, 31, 43-49 and 55 are drawn to an invention nonelected with traverse in Paper No. 04282003. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

2. Newly submitted claims 71-74 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: The newly submitted claims are subcombinations of the originally presented claims. Furthermore, the originally filed combinations do not require the newly recited transducer, and the subcombinations would have separate utility, such as an optical filter.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 71-74 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Drawings

1. The subject matter of this application admits of illustration by a drawing to facilitate understanding of the invention. The pending claims are directed to a system, comprising particular structural elements oriented in a particular relationship with one

another so as to operate in the recited manner. Such extent of structural claim language to define a system is incomplete absent an adequate illustration to depict the claimed system. Applicant is required to furnish a drawing under 37 CFR 1.81. **No new matter may be introduced in the required drawing.**

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the optical fiber, waveguide, photosensor, and optoelectronic device must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

4. Claim 62 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.
5. Claims 61 and 54 are objected to under 37 CFR 1.75 as being a substantial duplicate of claims 62 and 68, respectively. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
7. Claim 67 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 67 fails to set forth any details beyond that already recited in claim 61.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 50-53, 59 and 60 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Kane.

Kane discloses an optical sensor that comprises all of the presently recited elements. See particularly figures 3 and 4 of Kane disclosing a light source (12), a conversion means (19) which incorporates a tethered pair fluorescence energy indicator, a light emission detector (13) and a fiber optic waveguide communicating the light source, conversion means and light detector, in sequence. In accordance with the specification, the presently recited "conversion means" operates to excite a first fluorophor, which excitation emission effects excitation of a second acceptor fluorophor. Since the tethered energy transfer pair of fluorophores in Kane operated in the same manner (see e.g. Figure 2), the indicator composition of Kane fully anticipates the presently recited conversion means. Furthermore, since the electromagnetic radiation of light is inherently comprised of photons, the limitation of instant claim 53 is inherently satisfied by Kane's disclosure of transfer of emitted light to the detector.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 54 and 61-70 are rejected under 35 U.S.C. 103(a) as being unpatentable over Waterbury et al in view of Hendrix.

Waterbury et al disclose a method by which phycobilisomes are irradiated with ultraviolet and visible light to induce fluorescence, and the fluorescence emission monitored to produce the absorption and emission spectra of the phycobilisomes. See column 8, lines 48-58 and Figure 2. Waterbury et al however fail to disclose the particular optical structure utilized to produce the above-noted emission spectra.

Hendrix discloses an apparatus suited to illuminating and monitoring fluorescent emissions for phycobiliproteins, the fluorescent components of phycobilisomes, which apparatus includes a light source and detector communicating with the fluorescing

material via optical fibers. Since Waterbury et al are silent as to the apparatus utilized for performing the optical analysis disclosed, it would have been obvious for one of ordinary skill to look to the prior art for known, conventional optical systems suited for the purpose of Waterbury et al. Thus, it would have been obvious to provide a light source and light detector, each communicating with the fluorescing material via fiber optic waveguides as per the teaching of Hendrix, in order to perform the spectral analysis disclosed by Waterbury.

Response to Arguments

8. Applicant's arguments filed 12-22-2004 have been fully considered but they are not persuasive. Applicant asserts that the specification teaches the presently recited "conversion means" is preferably a phycobilisome, and therefore not anticipated by Kane. The argument is not persuasive because the claims, including any interpretation of such claims under 35 USC 112, sixth paragraph, are not to be limited by preferred embodiments. Furthermore, the doctrine of claim differentiation requires in this case that the "conversion means" recited in e.g. claim 50 is not limited to phycobilisomes because such further limitation is recited in dependent claim 54.

9. Applicant further argues that Waterbury et al teach measurement of phycobiliproteins rather than phycobilisomes. However, see Waterbury et al at column 8, lines 48-58.

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey R. Snay whose telephone number is (571) 272-1264. The examiner can normally be reached on Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill A. Warden can be reached on (571) 272-1267. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-1700.

Application/Control Number: 10/020,151
Art Unit: 1743

Page 9

A handwritten signature in black ink, appearing to read 'J. R. Snay', with a stylized flourish at the end.

Jeffrey R. Snay
Primary Examiner
Art Unit 1743

jrs
March 7, 2005